EXHIBIT A SCOPE OF WORK

RALSTON AVENUE CORRIDOR STUDY & IMPROVEMENTS

Before beginning each phase of work W-Trans will meet with City staff to discuss the approach, refine the scope of work and budget as needed, and confirm all expectations.

Phase 1 – Project Kick-Off and Initial Data Collection

1.1 **Kick-Off Meeting**. The agenda for this meeting will include the Phase 1 scope of work, schedule, data requested from the City of Belmont, stakeholder involvement and outreach plans, and deliverables. W-Trans will prepare meeting notes following the kick-off meeting.

Deliverable: Kick-off meeting agenda and meeting notes

1.2 **Obtain and review existing data from City files.** Data and relevant information will be obtained, including GIS files, as-built plans, traffic data, collision data, speed surveys, traffic signal design and timing plans, inventories of crosswalks, signs, etc.

Deliverable: none; material to be incorporated into Task 1.8 deliverable, including GIS, traffic, collisions, speeds, signal and other available data

1.3 **Collect public transit utilization data.** SamTrans will be contacted and a request made for boardings by bus stop location along the entire Ralston Avenue corridor between US 101 and SR 92.

Deliverable: none; material to be incorporated into Task 1.8 deliverable, including transit data

1.4 **Collect new data.**

i. Conduct origin/destination study. The survey will determine the percentage of vehicular traffic passing through Belmont vs. community traffic. This will be done by setting up Bluetooth readers along the corridor between SR 92 and US 101.

ii. Conduct traffic counts. Intersection turning movement counts will be conducted during a typical weekday morning peak period (7:00 a.m. – 9:00 a.m.) and afternoon peak period (3:00 p.m. – 7:00 p.m.) at the following intersections, including bicycle and pedestrian volumes, from the following list:

1. Ralston Avenue/US 101 Northbound Off-Ramp/Island Parkway
2. Ralston Avenue/US 101 Southbound Off-Ramp
3. Ralston Avenue/Hiller Street
4. Ralston Avenue/Old County Road
5. Ralston Avenue/El Camino Real
6. Ralston Avenue/6th Avenue
7. Ralston Avenue/South Road
8. Ralston Avenue/Notre Dame University Road
9. Ralston Avenue/Chula Vista Drive
10. Ralston Avenue/Notre Dame Avenue
11. Ralston Avenue/Alameda De Las Pulgas
12. Ralston Avenue/Cipriani Boulevard
13. Ralston Avenue/Davis Drive
14. Ralston Avenue/Tahoe Drive
15. Ralston Avenue/Belmont Canyon Road East/Hillcrest Drive

16. Ralston Avenue/Hallmark Drive
17. Ralston Avenue/SR 92 Eastbound Off-Ramp
18. Ralston Avenue/SR 92 Westbound Off-Ramp

iii. Collect queuing data. As part of the intersection turning movement counts, queues will be measured every 15 minutes in terms of number of vehicles in turn lanes and through lanes at each study intersection, and summarized by intersection and by approach.

iv. Conduct a walking audit. The walking audit will identify gaps in pedestrian, bicycle, transit and motorist facilities. We will collect information on the presence of marked and unmarked crosswalks, bike lanes, curb ramps, signage, sidewalk or pathway width, striping conditions, rolled vs. non-rolled curbs, and overall facility condition.

v. Conduct travel time runs. Travel time runs will be used a measure of effectiveness of corridor performance, and will include delay at signalized intersections.

vi. Conduct parking surveys. On-street and off-street parking occupancy will be qualitatively surveyed during peak times in the downtown area (between US 101 and 6th Avenue), Village District/Downtown area and the commercial area for one block on either side of Alameda De Las Pulgas. The on-street parking data will include a space inventory and peak period utilization survey along Ralston Avenue and for one block on either side of Ralston Avenue. We will also observe off-street parking in public parking lots in the same survey areas to gain a general sense of parking utilization during weekday and weekend peak periods.

Deliverable: none; material to be incorporated into Task 1.8 deliverable, including origin and destination survey, traffic counts, queuing data, walking audit, travel time runs, and parking surveys.

1.5 **Create Ralston Avenue Project Website**. The intent of the website is to create an engaging and interactive website to help the community submit ideas, concerns, priorities and desired facilities and streetscape elements. The website will provide information on the overall project goals, upcoming community meetings, draft and final reports. All approved project deliverables will be posted to the website. We will also include a page for the community to provide comments and links to a City-hosted Facebook page, City-hosted Twitter account, and the Belmont Patch.

We will work with Staff to acquire a custom web address such as "Ralston Avenue Corridor Study." We will host and manage the site for up to one year.

Deliverable: Website for Ralston Avenue Corridor Study

1.6 **Community Outreach Workshop No. 1**. The City of Belmont will be responsible for scheduling a community outreach workshop and making arrangements for a facility. We will be responsible for notifications of public workshops. We will develop narrative for an advertisement, a press release, and an email newsblast and distribute information to local, mainstream and alternative news media, as well as via social media. We will work with the City to identify community and related area groups and to distribute the email newsblast to such groups. We will also strategically place phone calls to agreed-upon stakeholders to inform them of the meeting. We will prepare an agenda, comment sheets, other print materials, record public

comments and assist in providing appropriate responses. Meeting materials to be prepared could include exhibit boards, PowerPoint presentations, fact sheets, and other materials helpful in presenting the project to the public. We will also track project-related news articles to share with the project team.

Information obtained to date will be presented at the community workshop with the primary objective of gathering input on community concerns.

Components of this community workshop will include the following:

- Community kick-off workshop with opening presentations of project objectives, tasks and schedule.
- Presentation of information on current and future transportation issues, such as traffic data and surveys, circulation, non-motorized audits of the corridor, and parking.
- Community design tables to provide a forum for community members to work with the project team to clarify issues and priorities

Deliverable: Workshop materials, workshop notes, written summary of the presentation, comments and ideas received, and the next steps in the project

1.7 **Independent stakeholder workshop meetings**. Up to three individual workshop meetings will be conducted with stakeholders. These meetings will be organized by City of Belmont staff. The intent of these workshop meetings is to solicit more detailed input from key members of the community.

Deliverable: none; material to be incorporated into Task 1.8 deliverable, including notes from stakeholder workshop meetings

1.8 **Draft Existing Conditions Report.** The existing data collection and meeting notes will be assembled into a report. No operational analysis will be conducted in Phase I, as it is part of Phase II. Any revisions to the Draft Existing Conditions Report will be incorporated into the Draft Ralston Avenue Corridor Plan Report (Task 2.5).

Deliverable: Draft Existing Conditions Report, with existing transportation data collected in Tasks 1.2 - 1.4 and meeting notes from Tasks 1.1, 1.6 and 1.7 (one pdf, one WORD file with attachments, and five hard copies)

1.9 **Project Management**. This task includes items such as monthly status reports of progress and expenditures to accompany invoices, project schedule review and update, and management of project team and subconsultants.

Deliverable: Overall project administration.

Summary of Phase 1 Deliverables:

- *Kick-off meeting notes*
- *Project website*
- *Community Workshop no. 1 materials and workshop notes*
- *Draft Existing Conditions Report*

Phase II – Preliminary Alternatives Development

2.1 **Identify Transportation Issues**. This task will include an overall roadway segment evaluation under both existing and future conditions. Utilizing existing data collected in Phase I, We will identify operational, safety and livability transportation issues. These include the following,

i. Review transportation information from City of Belmont General Plan Transportation and Circulation Element, Grand Boulevard Initiative, and Village District development. To the extent possible, the Ralston Avenue Corridor Study will be consistent with these other documents.

ii. Determine future traffic volumes from City and C/CAG. Estimate traffic growth along the corridor at study intersections.

iii. Review circulation patterns, evaluate peak-hour traffic signal warrants at unsignalized intersections for existing and future conditions, and provide recommendations for additional traffic signals or other traffic control devices at the following unsignalized intersections:

1. Ralston Avenue/South Road
2. Ralston Avenue/Notre Dame University Road
3. Ralston Avenue/Chula Vista Drive
4. Ralston Avenue/Notre Dame Avenue

iv. Evaluate existing and future Levels of Service (LOS) for the study intersections. For future conditions, projected traffic and pedestrian data will be used based on potential growth and business development.

v. Review the collision history for patterns that are susceptible to correction through geometric modifications and/or signal timing.

vi. Identify deficiencies in pedestrian connectivity and safety, and conduct pedestrian LOS analysis at signalized study intersections.

vii. Evaluate existing signage, sidewalks and crosswalks for their complete streets compatibility.

viii. Review current ADA accessibility data and amenities along the project corridor and summarize recommendations.

ix. Evaluate existing bike lanes along the Ralston Avenue corridor for their complete streets compatibility.

x. Evaluate transit stops along the Ralston Avenue corridor for their complete streets compatibility.

xi. Review bike lane usage for both existing and future conditions to determine needed improvements. This will be a qualitative evaluation.

xii. Evaluate future parking demand along the Ralston Avenue corridor and in the Village District/Downtown area and compare to the existing conditions observations from Phase I.4.vi.

xiii. Review existing pedestrian crossing times and bicycle detection at intersections.

xiv. Prepare a summary of the existing traffic signal system, including hardware, software, signal timing plans, pedestrian crossing times, bicycle detection, and pros/cons of coordinated traffic signals for the Ralston Avenue Corridor. This task will also include performing a review and evaluation of the City of Belmont's existing Traffic Management Center (TMC) software (QuicNet), traffic signal hardware, controllers and other related equipment/fiber optics.

xv. Prepare opportunities and constraints figures for the corridor.

Deliverable: Draft Transportation Issues and Analysis Report summarizing transportation issues, including items noted in i–xv above. Any revisions to the Draft Transportation Issues and Analysis Report will be incorporated into the Draft Ralston Avenue Corridor Plan Report (Task 2.5). The Draft Transportation Issues and Analysis Report will include:

- *Peak-hour traffic signal warrants and traffic control recommendations*
- *Existing and future year intersection LOS*
- *Collision history analysis*
- *Pedestrian LOS analysis*
- *Discussion of Ralston Avenue complete street compatibility for pedestrians, bicyclists, and transit users*
- *Recommendations for ADA compliance*
- *Discussion of bicycle use along the corridor*
- *Existing and future parking demand analysis*
- *Review of existing traffic signal system, QuicNet and other signal equipment*
- *Opportunities and constraints figure*

2.2 **Community Outreach Workshop No. 2**. The analysis from Task 2.1 will be presented at a second community workshop. The purpose of this workshop will be verification of issues and framing of the issues so that alternatives can be developed.

The City of Belmont will be responsible for scheduling the second community outreach workshop and making arrangements for a facility. We will be responsible for notification as indicated for Task 1.6.

Components of this community workshop will include the following:

- Presentation of tasks completed to date (data collection, analysis, issues identification)
- Community design tables to provide a forum for community members to work with the project team to verify issues and priorities, identify potential improvements, and develop conceptual transportation improvement designs

Deliverable: Workshop materials, workshop notes, written summary of the presentation, comments and ideas received, and the next steps in the project

2.3 Develop Ralston Avenue Corridor Plan Alternatives. At the beginning of this task we will meet with City staff to discuss the approach. Based on findings to date, Village District, Grand Boulevard Initiative, and desired circulation and operation improvements for multi-modal functionality of the corridor, we may prepare plans by segment, or for the entire corridor. It is likely that a matrix approach will be used, with certain strategies identified for one segment and other strategies identified for other segments of the corridor. Up to three corridor plan alternatives will be developed based on observed existing transportation

conditions as well as future year transportation projections and the projected operations. Alternatives shall include operational improvements that effectively reduce congestion, reduce collisions and improve safety and community livability. Alternatives will include methods to create a more livable environment and enhance the corridor characteristics by improving multi-modal function, bicycle and pedestrian facilities, traffic calming measures, and community aesthetics.

Plan development will include the following:

i. Develop measures to improve safety of motorists, pedestrians, and bicyclists.

ii. Develop measures to reduce critical queuing conditions.

iii. Determine potential modifications to lane geometrics to better serve the needs of all users.

iv. Identify trade-offs of the appropriateness of providing capacity improvements to reduce delay and improve Level of Service.

v. Develop measures to improve pedestrian facilities along the corridor and connect pedestrian routes.

vi. Develop measures to improve bicycle travel facilities along the corridor and connect bike routes.

vii. Review feasibility of creating bicycle parking at likely destinations.

viii. Identify bus stops needed for transit service.

ix. Determine policy, goals and extent of traffic signal coordination projects and improvements which should be implemented as part of the Ralston Avenue Corridor Plan. This task will include input received during the second community meeting and from stakeholders.

x. Develop up to three corridor plans consisting of various combinations of modal improvement alternatives, which will be consistent with the Village District and Grand Boulevard Initiative. The corridor plans may include the entire Ralston Avenue corridor between US 101 and SR 92, or may focus on improvements that are tailored for various segments of the corridor. The plans will include alternatives, graphics, cross-sections, conceptual examples of roadway geometrics. Possible plans could have auto focus, bicycle focus, and pedestrian focus, or perhaps one for the Downtown segment, one for the Middle segment and one for the Western segment.

xi. Review preliminary needs for right-of-way acquisition for potential roadway reconfiguration options under the established alternatives.

xii. Develop concept-level estimated budgets for each project to assist in the financial plan for future system improvements.

xiii. Evaluate the corridor plan alternatives using criteria to be determined (such as LOS, changes in travel time and connectivity for various modes).

xiv. Prepare a preliminary environmental constraints analysis of each corridor plan alternative. This task will identify potential environmental issues that may need further analysis or a separate environmental document.

Deliverable: Draft Ralston Avenue Corridor Plan Alternatives Report. Any revisions to the Draft Ralston Avenue Corridor Plan Alternatives Report will be incorporated into the Draft Ralston Avenue Corridor Plan Report (Task 2.5). The Draft Ralston Avenue Corridor Plan Alternatives Report will include items noted in i–xiv above:

- *Safety measures*
- *Queue reduction measures*
- *Geometric modifications and their trade-offs*
- *Measures to improve pedestrian facilities and connectivity*
- *Measures to improve bicycle facilities and connectivity*
- *Potential for additional bicycle parking*
- *Recommendations for transit stop changes*
- *Recommendation for traffic signal coordination*
- *Three corridor plan alternatives, including right-of-way needs, conceptual budgets, and evaluation comparisons*
- *Preliminary environmental constraints memo*

2.4 Community Outreach Workshop No. 3. The Ralston Avenue corridor plan alternatives developed in Task 2.3 will be presented at the third community workshop. The purpose of the third community workshop will be to solicit feedback on each alternative and to develop a hybrid alternative based on the three corridor plan alternatives.

The City of Belmont will be responsible for scheduling a third community outreach meeting and making arrangements for a facility. We will be responsible for notifications and other tasks as identified in Task 1.6.

Components of the third community meeting will include the following:

- Presentation of three Ralston Avenue corridor plan alternatives
- Provide a forum for community members to identify elements of each plan that they want to see in the final preferred plan.

Deliverable: Workshop materials, workshop notes, written summary of the presentation, comments and ideas received, identification of a preferred Ralston Avenue Corridor Plan, and the next steps in the project

2.5 Prepare Draft Ralston Avenue Corridor Plan. Based on the traffic data, issues identification, alternatives, and community and stakeholder input, a Draft Ralston Avenue corridor Plan will be developed. The draft plan will include the following sections:

i. Introduction and Purpose of the Ralston Avenue Corridor Plan
ii. Study Methodology
iii. Data Collection
iv. Identification of Issues
v. Ralston Avenue Corridor Plan Alternatives

vi. Preferred Ralston Avenue Corridor Plan Alternative
vii. Technical appendices (including a summary of community and stakeholder outreach, and supporting technical analysis)

Deliverable: Draft Ralston Avenue Corridor Plan Report (one pdf, one WORD file with attachments, and five hard copies)

2.6 City Review of Draft Ralston Avenue Corridor Plan. The draft plan will be sent to City of Belmont staff for review and comment. The City may elect to have the draft plan reviewed by other agencies, stakeholders or interested parties as well. Comments received on the draft plan shall be documented.

2.7 Presentation of Draft Ralston Avenue Corridor Plan to City Council. The draft plan will be presented to the City of Belmont City Council.

Deliverable: Power Point Presentation to City Council by W-Trans

2.8 Prepare Final Ralston Avenue Corridor Plan. After meeting with City staff to discuss comments and responses to the draft plan, a Final Ralston Avenue Corridor Plan will be prepared.

Deliverable: Final Ralston Avenue Corridor Plan Report (one pdf, five hard copies)

2.9 Project Management. This task includes items such as monthly status reports of progress and expenditures to accompany invoices, project schedule review and update, and management of project team and subconsultants.

Deliverable: Overall project administration.

Summary of Phase 11 Deliverables:

- *Draft Transportation Issues and Analysis Report*
- *Community Workshop No. 2 materials and workshop notes*
- *Draft Ralston Avenue Corridor Plan Alternatives Report*
- *Community Workshop No. 3 materials and workshop notes*
- *Draft Ralston Avenue Corridor Plan Report*
- *Presentation to City Council*
- *Final Ralston Avenue Corridor Plan Report*

Phase III - Capital Improvement Program

Based on the analysis, recommendations, and community input, we will develop a Capital Improvement Program (CIP) for Ralston Avenue. The key CIP tasks will include:

3.1 Develop 30% Plans, Specifications and Estimates documents that illustrate the location of all recommended CIP projects. The W-Trans team will utilize as-built plans and GIS-based applications to the fullest extent possible. These documents are intended for planning use only and will not be suitable for construction until more detailed plans are developed.

Deliverable: 30% P, S & E

3.2 Develop a project timeline (phasing plan) to indicate when projects will be required.

Deliverable: CIP Project Phasing Plan Schedule

3.3 Identify funding strategies for the Ralston Avenue CIP projects. This may include grant opportunities, collaboration with other projects, and other financial programs.

Deliverable: CIP Funding Strategies Memo

3.4 Capital Improvement Program Report, based on Tasks 3.1 – 3.3. We have assumed delivery of one version of the CIP report.

Deliverable: CIP Report (one pdf, five hard copies). The CIP Report will include:

- *30% P, S & E*
- *Project Phasing Plan Schedule*
- *Funding Strategies Memo*

3.5 Traffic Signal and TMC Enhancements

i. Enhancements to TMC Software and Traffic Signal Hardware. Increased traffic signal coordination, if desired, will generally require more robust infrastructure. We will provide an outline of recommendations for enhancing the City's signal equipment infrastructure in order to meet these requirements. These recommendations will be in the areas of TMC software, traffic signal controllers, communications protocols and communications devices.

ii. Develop Traffic Signal Coordination Plans. Timing plans will be developed that meet the plan's goals as defined in earlier tasks (travel time, delay, Level of Service, throughput of people, uniform travel speeds, etc.). Upon the agencies' approval (City of Belmont, Caltrans and/or County of San Mateo) of the actuated settings evaluation, optimized Synchro models will be developed for each weekday peak period (a.m., midday and p.m.) to analyze the 20 study intersections.

A Traffic Signal Timing Recommendations Technical Memorandum will be provided with optimized timings for Ralston Avenue. This Memo will compare the optimized Synchro MOE's with the existing Synchro MOE's to identify the segments that will provide the most improvements. Upon

the agencies' approval, implementation ready timing sheets, per the City's preferred format, will be developed for input into the City's central system.

iii. Implement and Fine-Tune Optimized Timings. Approved actuated settings and coordinated plans and hours of operation will be implemented and fine-tuned. Implementation will be performed by Iteris staff, unless the City's preference is to perform the implementation themselves with Iteris' assistance.

During the implementation of new timings, each intersection will be observed to ensure that it is operating properly, especially at locations with any transit parameter modifications, prior to doing any fine-tuning along the corridor. Corridor observations will be conducted in the field and all modifications (parameter changes, timing and time of day operation adjustments) will be recorded. Fine-tuning will be conducted during times and days representative of the times and days for which coordination plans are developed.

Once the fine-tuning task is complete and the City has accepted the timings, 'after' travel time studies during the same hours and days as the 'before', as well as during the times and days for which coordination plans are in operation, will be conducted. Similar to the before studies, a minimum of four runs in each direction will be conducted using the floating car method.

A Final Timings and Evaluation Technical Memorandum will be developed to include any implementation and fine-tuning findings; changes to the timings originally recommended; and the results of the evaluation of MOE. The calculated MOE of the improved system will include delay, number of stops, travel time, fuel consumption, emissions, benefit/cost, and cost effectiveness for emissions reductions. The methodology for calculating fuel consumption, emissions, benefit: cost, and cost effectiveness for emissions reduction will follow the same format as the MTC regional synchronization projects.

Deliverables:

- *Recommendation for signal system enhancements Memorandum*
- *Traffic Signal Timing Recommendations Technical Memorandum*
- *Final Timings and Evaluation Technical Memorandum. including final fine-tuned Synchro networks and final fine-tuned signal timing sheets*

3.6 Project Management. This task includes items such as monthly status reports of progress and expenditures to accompany invoices, project schedule review and update, and management of project team and subconsultants.

Deliverable: Overall project administration.

Summary of Phase III Deliverables:

- *Capital Improvement Program Report*
- *Recommendation for signal system enhancements Memorandum*
- *Traffic Signal Timing Recommendations Technical Memorandum*
- *Final Timings and Evaluation Technical Memorandum. including final fine-tuned Synchro networks and final fine-tuned signal timing sheets*